Quality Control

Work Order ID <i>April-24-14 10:18:15 1</i>			*117	7249*							Page	1
Item ID: D3490 Revision ID:	0-3	A	Accept	*N900	04 0	100)*	Setup		1 73	S1*	
Item Name: Cross I	Bolt Spacer								Stop	*N:	S2*	
Start Date: 4/23/1		*50*		Cust Item 1	ID:							
Required Date: 4/23/1	4 Req'd Qty: 50.00	*50*		Customer:								
Reference:				In the second se		- '	·	Run	Start	4 N 11	D4+	
	ess Plan: MLゴ	_ Date: 14-04-79	Tooling:	D :	ate:				Stop	^1/1	R1*	
QC:		Date:	SPC (Y/N):	D :	ate:		•		эсор	*N	R2*	
Sequence ID/ Work Center ID	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reje Qty		Reject Number	Insp. Stamp	
Draw Nbr	Revision Nbr											
D3490	Rev A											
100			0.00			·					DA\$	_
100	Hardinge CNC LATHE	SMALL	÷				50	k	7		20 9-89	14-06-01
Hardinge Hardinge CNC Lathe Small	Memo	E DED EOLIO EA COO (C. DOW)	0.00									,, ,
:	FOLIO REV DWG REV:		5 D3490									
110	QC2- Inspect parts off m	nachine FAI/FAIB	0.00								DAS	
110 oc	Memo		0.00				50	_Ø	<u> </u>		20 9-89	14-06-01
Quality Control												
		•										
120	QC8- Inspect parts - seco	ond check	0.00								DAS 40	
120			0.00				50	2	<u> </u>		9-89	
QC	Memo		0.00					'-			-	

14/06/02

DQA:			Date:										
04.614			Data			WORK ORDER NO	N-C	ONFO	RMANCE / U		/ork Order up	ndate only	AEROSPACE
QA Closed:			Date:			· · · · · · · · · · · · · · · · · · ·		r			ork Order up	date only	
Work Order	r:					DISPOSITION				AGAINST D	EPARTMENT	/PROCESS	
l Work order	·· —		·			Rework	7		Skid-tube	Crosstube	7	Water Jet	Engineering
Part No	0.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is	7	Therr	noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR N	ο.					Suspected Unapproved]		Large Fab	Composite		Supplier	
										-			· · · · · · · · · · · · · · · · · · ·
Root					Desc	ription of work order update	- 1	Initial		tion	Sign &		
Cause	_ _	Date	Step	Qty		or non-conformance	Ct	nief Eng	Desc	ription	Date	Verification	QC Inspector
Design	_		·										
Doc/Data	_												/
Equip/Tooling	_												
Handling/Pre	_		-										
Material	4												
Operator	_												
Offset/Setup	2									•		·	
Process	-												
Supplier	-												
Training	\dashv				:								
Transport	\dashv												
Unapproved	<u></u>	·					FΔ	UIT CA	TEGORY				<u> </u>
Landin	a Ge					General		<u> </u>					
		ending				Bend] Folio/f	Program	Γ	Outside Dim	ensions	Pressure/Forced
 	—	_	t Concer	ntric		BOM/Route		Grain			Over/Under	tolerance	Set-up
	_	acks				Broken/Damage/Defect		Hardwa	are		Part Incorre	cí 🗍	Temperature/Cure
·	\neg cr	imp/Kin	k/Ripple	/Wave		Burrs		Inspect	ion Incomplete/U	Inqualified	Part Lost/M	issing	Weld
		uffs				Contamination		Instruc	tions Incomplete/	'Unclear	Part Moved		Wrong Stock Pulled
*****	Cr	ushing				Countersink		Misali	gned/off center		Positioned \	Vrong	
	H	eat Trea	t			Cut Too Short		Mislab	eled		Power Loss	'Surge	Other
	ln	spection	n Strip in	Tube		Drawing		Misrea	d				
	M	larks/Ch	atter			Drill Holes		Off-set					
	Tı	urning S	equence			Finish		Out of	Calibration				
	W	/ave/Tw	ist in Tub	e		Fit/Function		Out of	Sequence				

					·						
Work Ord April-24-14 10		17249		*117	249*						Page 2
Item ID: Revision ID: Item Name:	D3490-3 Cross Bolt S	расег		Accept	*N900	040	100) *	Setup Star Stop	17	S1* S2*
Start Date: Required Date: Reference:	4/23/14 4/23/14	Start Qty: 50.00 Req'd Qty: 50.00	*50* *50*		Cust Item I Customer:	D:					. 17
Approvals:	Process P	lan:	Date:	Tooling:	Da	ıte:		F	Run Star	^t *N	R1*
i	QC:		Date:	SPC (Y/N):		ıte:			Stop	, *N	R2*
Sequence ID/ Work Center II 130 *130*	D	Operation Description Identify as per dwg & Stock	k Location:	Set Up/ Run Hours 0.00	Tool ID		Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Packaging Packaging			SSBOLT SPACER WITH SKIDTUBE CELL***	0.00 I ALUMINUM CLEANNE	ER				7/06/	102	

140

QC21- Final Inspection - Work Order Release

0.00

140

Quality Control

Memo

0.00

MLJ 1406-03 MLJ 1406-03

DQA:			Date:											
						WORK ORDER NON-	·CC	ONFO	RMANCE / UPDATE				AEROSPACE	
QA Closed:			Date:							W	ork Order up	date only		
Mork Orde						DISPOSITION	ı		AGAII	NST DE	PARTMENT	PROCESS		
Work Orde	٠					Rework	ı		Skid-tube Crossto	uhe]	Water Jet	Engineering	
Part N	lo.					Scrap			Machining Small	<u> </u>	Pro	d. Eng. Coor.	Quality	
NCR N	٠ اه.					Use-as-is Suspected Unapproved	ted Unapproved Large Fab Composite				Rec/Store/Packaging Other Supplier			
Root					Desci	ription of work order update	ı	nitial	Action		Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector	
Design														
Doc/Data														
Equip/Tooling		1 :												
Handling/Pre														
Material													·	
Operator						!								
Offset/Setup														
Process														
Supplier														
Training														
Transport			1											
Unapproved							<u> </u>				<u> </u>			
· · · · · · · · · · · · · · · · · · ·							FAI	ULT CA	TEGORY		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Landi	_	1			_	General	_	1	_		1		Jp /5	
		Bending				Bend	<u> </u>	1	Program	 	Outside Dim		Pressure/Forced	
		Centre No	ot Concer	ntric	 	BOM/Route	<u> </u>	Grain		_	Over/Under	-	Set-up	
	├──	Cracks			_	Broken/Damage/Defect	<u> </u>	Hardwa		<u> </u>	Part Incorred	⊢	Temperature/Cure	
	-	Crimp/Kir	nk/Ripple	/Wave	<u> </u>	Burrs	_	4 '	ion Incomplete/Unqualified	-	Part Lost/Mi	ssing	Weld	
		Cuffs				Contamination	┝	4	tions Incomplete/Unclear	<u> </u>	Part Moved	. <i>,</i>	Wrong Stock Pulled	
	$oxed{oxed}$	Crushing				Countersink	_	4	gned/off center	\vdash	Positioned V		Joshan	
	_	Heat Trea			<u> </u>	Cut Too Short	\vdash	Mislabe		L	Power Loss/	ourge	Other	
	L	Inspectio	•	Tube	_	Drawing	-	Misrea						
	\vdash	Marks/Ch			\vdash	Drill Holes	<u></u>	Off-set						
ļ	\vdash	Turning S			igspace	Finish	\vdash	4	Calibration					
1	1	Wave/Tw	ist in Tul	эe		Fit/Function		Out of	Sequence					

April-24-14 10:18:19 AM

Work Order ID: 117249

117249

Parent Item:

D3490-3

D3490-3

Parent Item Name:

Cross Bolt Spacer

Start Date: 4/23/14

Required Date: 4/23/14

Start Qty: 50.00

Required Qty: 50.00

Comments:

IPP Rev:A New Issue 06-03-03 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Primary Item Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Status Issued
M6061T6R0.750		Purchased	No		100	f	43.9111	0.266	14		DAS
*M6061T6	SD0 750	*						**	4.8961		20 9-89 14-6

6061-T6 Round Bar .750"

Location	Loc Qty	Loc Code	
MAT012	43.911052		
m126852	19.911052		
m128573	24		

129167

DQA:			Date:											
			•			WORK ORDER NON	I-CO	ONFO	RMANCE / UPDATE					AEROSPACE
QA Closed:			Date:							Wo	rk Order up	date only		
						DISPOSITION			AGAINST	r DEP	ARTMENT	/PROCESS		
Work Order	:: _						,		<u></u>	_				
						Rework]]		Skid-tube Crosstube	-		Water Jet	_	Engineering
Part No	o					Scrap	4	ĺ	Machining Small Fab	-		d. Eng. Coor.	_	Quality
						Use-as-is			noforming Finishing	_	Rec/Stor	re/Packaging		Other
NCR No	o					Suspected Unapproved	J		Large Fab Composite	•		Supplier]	
Doot	. 1			-	Dosc	ription of work order update	\top	nitial	Action	\neg	Sign &			
Root :	H	Date	Step	Qty	Desc	or non-conformance		ief Eng			Date	Verification	n	QC Inspector
Design	+	Date	Step	Qty		of non-comormance	-	ilet Elig	Description					<u> </u>
Doc/Data	ᅱ												İ	
Equip/Tooling	ᅦ													
Handling/Pre	┪													
Material	┪								•					
Operator	┨						1							
Offset/Setup													ı	
Process														,
Supplier				1										
Training			j							1				
Transport			Ì											
Unapproved													}	
							FA	ULT CA	TEGORY					
Landing	\neg					General		1- 1: /-			Outside Dies		П	Pressure/Forced
	_	Bending			\vdash	Bend	\vdash	-1	Program	\vdash	Outside Dim Over/Under	1	\vdash	Set-up
_	_	Centre No	ot Concer	ntric	-	BOM/Route	\vdash	Grain		\vdash	Over/Onder Part Incorre		-	Temperature/Cure
-	_	Cracks	. I. /D: I-	/\ A / = =	\vdash	Broken/Damage/Defect	-	Hardwa	ion Incomplete/Unqualified	-	Part Income Part Lost/Mi		-	Weld
-	-	Crimp/Kir	ік/кірріе	/wave	-	Burrs	\vdash	4	tions Incomplete/Unclear		Part Moved		Н	Wrong Stock Pulled
-	_	Cuffs			-	Contamination Countersink	-	-1	gned/off center	-	Positioned V		ш	Wrong Stock Funda
\ \ \-		Crushing Heat Trea	.+		-	Cut Too Short	-	Mislabe		_	Power Loss/	=		Other
-		Inspection		Tube	\vdash	Drawing		Misrea		ш	. 5 2000/	,		
	_	Marks/Ch		Tabe	<u> </u>	Drill Holes	\vdash	Off-set		-				
-	\dashv	Turning S				Finish		-1	Calibration	-		***		
	_	Wave/Tw	•			Fit/Function		-	Sequence	-				

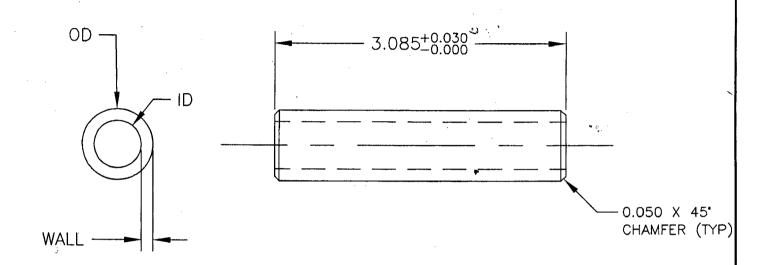
DART AEROSPACE LTD	Work Order:	117249
Description: Crossbolt Spacer	Part Number:	D3490-3
Inspection Dwg: D3490 Rev: A		Page 1 of 1

mopeonon Dwg	j. D0490 HeV						age i oi i
•	FIRS	T ARTICLE IN	NSPECTI	ON CHE	ECKLIST		
		First Arti	cle 🗌	Prot	otype		
Drawing	Tolerance	Actual	Accept	Reject	Method of	Co	omments
Dimension		Dimension	Досері	Hejeot	Inspection		
3.085	+0.030/-0.000	3.110			5108	Ven	^
0.080	+/-0.010	.073	/		in		
Ø0.591	+0.008/-0.001	.597	✓ /		Gauge F	in I	
0.050 x 45°	+/-0.010 x 0.5°	.049 × 450	/		٠,١		
							•
						·	
				-			
				••			
	DAS	***************************************	DAS	<u> </u>			
Measured by:	20 9-89	Audited by:	40 9-89		Prototype A	pproval:	N/A
Date:	14-06-01	Date:	14/06/	57		Date:	N/A
							L

Rev	Date	Change	Revised by	Approv#d
Α	06.10.27	New Issue	KJ/JLM 🛠	
			· · · · · · · · · · · · · · · · · · ·	



DESIG	n PH	DRAWN BY	DART	AEROSPACE PORT HADLOCK, W		VC.
CHEC	KED M	APPROVED M	DRAWING NO.			REV. A
ľ	#	-4 -	D3490		SHEET	1 OF 1
DATE			TITLE			SCALE
06.0	01.04		CROSS BC	LT SPACER		NTS
Α		06.01.04	NFW ISSI	J F		



D3490-1/-3/-5 CROSS BOLT SPACER PARTS LIST

PART NUMBER	OD	WALL	ID (REF)	MATERIAL SPEC
D3490-1	0.500	0.049	0.402	M6061T6T0.500W.049
D3490-3	0.750	0.080	0.591	M6061T6R0.750
D3490-5	0.313	0.058	0.197	M6061T6T0.313W.058

D3490-1/-3/-5 CROSS BOLT SPACER

1) MATERIAL: ALUMINUM 6061-T6 (QQ-A-200/8 OR QQ-A-225/8)

2) ALL DIMENSIONS ARE IN INCHES

3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



Copyright © 2006 by DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.